



**AFFIDAVIT OF J. THOMAS SCHROPPE IN SUPPORT OF FOSTER  
WHEELER'S NOTICE OF REMOVAL**

I, J. Thomas Schroppe, being under penalty of perjury, declare and say:

1. I am a 1962 graduate of the New York State Maritime College with a degree in Marine Engineering. For three months in 1962, I worked as a Third Assistant Engineer for American Export Lines. I began my career at Foster Wheeler in 1962 as a Proposal Engineer in the Marine Department. As a Proposal Engineer, I was responsible for taking shipyard specifications and designing a boiler to meet the thermal performance and physical requirements of those specifications. In 1967, I became the Manager of the Proposal Department and reviewed all proposals. In 1969, I was promoted to Vice President of Engineering at which point I supervised both proposal and contract execution activities. From 1975 to 1982, I was President of Foster Wheeler Boiler Corporation. In 1982, I became Managing Director of Foster Wheeler U.K. From 1984 to my retirement in 1999, I was Executive Vice President of Foster Wheeler Power Systems.

2. I am personally familiar with the degree of supervision and control exercised by the Navy and its agencies in procurement contracts with Foster Wheeler for boilers and auxiliary equipment because I was personally involved in such contracts at all the various stages of development, from inquiry and bid through production, testing, and sea trials and, ultimately, acceptance.

3. I submit this affidavit to attest to the degree of involvement, supervision, direction and control exercised by the U.S. Navy and its authorized agents and officers in connection with procurement contracts with Foster Wheeler for equipment to be installed aboard U.S. Naval vessels. The following paragraphs describe the contract process from the perspective of Foster Wheeler as the vendor, as well as the levels of interaction between Foster Wheeler and the Navy agents and personnel through the various stages of a given contract.

4. Foster Wheeler furnished and fabricated marine propulsion boilers and related auxiliary systems for U.S. Navy, Maritime Commission, and Coast Guard ships under contract between Foster Wheeler and the shipyards and/or the United States Navy Department and its authorized agencies, officers and personnel (hereafter collectively referred to as the "Navy").

5. The Navy was responsible for all phases of the design of a vessel, which was accomplished by the Naval architect. Specifically, the Naval architect would prepare the ship design which involved the entire vessel, including the machinery space, and all performance requirements. In general, the ship design for any given class of ship would be contained in a Ship Specification ("Ship Spec") which covers all aspects of the vessel including the machinery space. As it relates to the boiler, the Ship Spec would cover all boiler operating criteria, performance requirements, and maximum physical dimension of the boiler(s). In general, the Ship Spec was written and prepared by the naval architect and approved by the Navy and, in the course of its projects with the Navy, Foster Wheeler was required to design, fabricate and furnish equipment which complied strictly with the requirements in the Ship Spec.

6. In addition to the Ship Spec, Foster Wheeler was also obligated to comply with Military Specifications ("Mil Specs") which cover all specific components of the boiler, including

accessories, subcomponents, and materials required to fabricate the boilers and its components.

7. The normal process by which Foster Wheeler sold marine boilers to the Navy first involved receipt and response to an inquiry from either BuShips (Bureau of Ships) or the shipyard, depending on the Navy's procurement process. The boiler inquiry would be assigned to a proposal engineer at Foster Wheeler's marine department who would review the inquiry, which consisted of the Ship Spec and the associated drawings, for the performance requirements and size limitations of the boiler.

8. The performance requirements are contained in the specifications, namely MIL-B18381 and the Ship Spec, which must be followed. I must point out that deviations from these specs were not acceptable as the boiler is just one piece of the entire power plant which was designed by BuShips or by a designated naval architecture firm such as Gibbs and Cox. In addition, the Foster Wheeler proposal engineer was aware that these requirements would be tested during the sea trials, so all calculations had to precisely conform with the Ship Spec.

9. During the proposal phase, Foster Wheeler would prepare design drawings and related materials in conformance with the Ship Spec (which included performance specs and size limitations) and other requirements contained in MIL-B-18381 which was the Mil Spec pertaining to Naval propulsion boilers. I am personally familiar with the MIL-B-18381 as I saw it and referred to it throughout my career at Foster Wheeler. Foster Wheeler would prepare a proposal drawing and proposal specification that would outline the design and scope of material and equipment contained in the proposal. The boiler proposal submitted by Foster Wheeler would incorporate the specific requirements set forth in the Ship Spec and MIL-B18381.

10. Approximately half way through the proposal process, information is forwarded to Foster Wheeler's estimating department to start to prepare an estimate of the boiler cost. In parallel, the proposal engineer starts calling vendors to obtain quotes for the various boiler accessories such as burners, sootblowers, gage glasses, safety valves, etc. All Navy approved vendors were asked to provide a quotation for the material in accordance with the Mil Spec covering their equipment or product.

11. The finished boiler proposal consisted of an approximately 25 page booklet, a proposal drawing and an offering letter to the entity requesting a proposal so stating that the offering was in accordance with the Ship Spec and all required Mil Specs.

12. The boiler proposal would be reviewed by the shipyard with the understanding that the proposed design, prepared specifically for the Navy in accordance with the Ship Spec. at issue, conformed to all appropriate specifications stated above. Once final price negotiations were complete, the contract was awarded to Foster Wheeler.

13. The boiler specifications would provide detailed requirements for the boiler and would always reference the boiler Mil Spec (MIL-B-18381) which dictated very specific material requirements such as:

(a) Boiler tubes: Type of tube, tube diameter, tube thickness, material, and tensile strength.

(b) Refractory and Insulation: Specification identified the material, arrangement of various bricks and insulating materials on various boiler walls and provided specific Mil Specs for each type of insulating/refractory material.

(c) Boiler accessories: All accessories applied to the boiler, such as burners, safety valves, soot blowers, must conform to a specific Navy Mil Spec for each such component.

14. At receipt of an order the same Foster Wheeler proposal engineer is assigned the project as a contract engineer which will entail a more detailed recalculation of the thermal performance for the boiler. In addition, calculations of all the pressure drops, design of drum de-superheaters and final selection of all boiler accessories are made. All this work will be double checked by the head of engineering. In parallel, the contract engineer will commence discussions with the contract design department who will make all the drawings required for both manufacture, for submission to the shipyard and the Navy for review and approval. Foster Wheeler would not commence production of the boilers until the Navy issued final approval of these contract drawings. The approved drawings prepared during this phase would eventually be incorporated into the technical manuals.

15. The contract design department also provides the material requisitions to the purchasing department so they may procure materials in accordance with Mil Specs. With regard to procurement of insulating and refractory material, the specific requirements for insulation and refractory items are listed in MIL-B-18381, which then references additional Mil Specs for each specific type of refractory/insulating material required. Foster Wheeler's procurement process would involve the purchasing department contacting the vendor and requesting a quotation for the material. The Foster Wheeler purchase order would reference the appropriate Mil Spec for each item shipped. The vendor, in turn, would supply materials that conformed to the Mil Spec and ship it directly to the shipyard. Finished products such as burners, sootblowers, and all refractory and insulating materials, etc. are shipped direct to the shipyard so they may be incorporated into the final boiler erection. Upon arrival at the shipyard, there would be a receipt inspection to ensure what was on bill of materials was delivered.

16. During manufacture of the boiler, a Navy resident inspector was present at Foster Wheeler's shops. The Navy inspector would review all fabrication processes, welding procedures, pressure part welding, and all weld x-rays for conformity to Mil Specs. The inspector would also ensure that all materials used at this stage, e.g., steel, flanges, tubes, etc., conformed to applicable Mil Specs. All manufacturing was performed to drawings which had been reviewed and approved by the Navy.

17. Once individual components (e.g., headers, tubes, pressure parts) were manufactured, inspected by a Foster Wheeler quality control inspector, and inspected and stamped with approval by the resident Navy inspector, the materials/components were moved to the shipping area. At this point, the boiler fabrication was complete, though the boilers were in a "knocked down" condition (unassembled) for shipment. The boiler components and related materials were wrapped and/or boxed in accordance with Mil Specs relating to packaging and shipment of materials, which is also referred to in Mil Spec MIL-B-18381.

18. The knocked down boilers are then shipped from Foster Wheeler's facility to the shipyard for assembly. For those not familiar with Naval propulsion boilers, they are simply too large and heavy to be shipped assembled. The assembly is done by shipyard workers with a Foster Wheeler employee on site to interpret drawings and answer questions that may arise during the assembly process. Resident Navy inspectors also witness the boiler assembly process.

19. A critically important inspection item is the hydrostatic test put on the boiler after complete assembly of the pressure parts. This test is a water pressure test of the boiler at 50% over the boiler design pressure. At this point, leaks, even small ones, are not acceptable to the Navy. Formal written acceptance at this stage by the Navy inspector is a requirement. The boilers now sit idle in the ship as the remainder of the engine room and the balance of the ship are being completed. It is at this point that all the engine room piping is connected to the various connections on the boiler. Following the piping tests (shipyard responsibility) the shipyard insulates all piping up to the boiler casings.

20. Upon completion of the vessel by the shipbuilder, dock trials start to test the various machinery systems in the engine room. The boilers are run at low power since the main turbine cannot be run very fast at the dock because any higher powers would tear the ship loose from the pier. Full power testing is done during sea trials where all aspects of the boiler performance are thoroughly tested. Foster Wheeler would send a service engineer to witness these tests and answer any questions which may arise. Foster Wheeler frequently sent the contract engineer on the first ship of a new class to obtain first-hand data on the boiler performance. Sea Trials were performed on every ship and formal approval by the head Navy inspector was required. Any punch list items which were identified had to be corrected before final acceptance of the boilers.

21. In addition to the above design, manufacture and testing there remains an obligation by Foster Wheeler to provide technical manuals for the boilers furnished in a given Navy contract. The Navy exercised intense direction and control over all written documentation to be delivered with its naval boilers such as engineering drawings, test reports and other technical data that could be used as needed by shipboard engineering officer during the life of the equipment. The Navy required that every piece of equipment be supplied with a defined number of copies of one or more technical manuals. Navy personnel participated intimately in the preparation of this kind of information and exercised specific direction and control over its contents. These manuals included safety information related to the operation of naval boilers only to the extent directed by the Navy.

22. Furthermore, the Navy had precise specifications, practices and procedures that governed the content of any communication affixed to machinery supplied by Foster Wheeler to the Navy. Foster Wheeler would not be permitted, under the specifications, associated regulations and procedures, and especially under actual practice as it evolved in the field, to affix any type of warning or caution statement to a piece of equipment intended for installation onto a Navy vessel, beyond those required by the Navy.

I declare under the penalty of perjury under the laws of the United States of America that the foregoing facts are true and correct. Executed this 16<sup>th</sup> day of March, 2006 at Newark, New Jersey.

  
J. Thomas Schroppe

THE STATE OF NEW JERSEY

ESSEX COUNTY )

Personally appeared before me this \_\_\_\_\_ day of March, 2006, J. Thomas Schroppe, who made oath that the statements contained in the affidavit above are true and correct to the best of his knowledge.

Subscribed and sworn to before me this 10<sup>th</sup> day of March, 2006. My

commission expires 4/1/07



Notary Public

HEDWIG BACHLER  
A NOTARY PUBLIC OF NEW JERSEY  
MY COMMISSION EXPIRES APRIL 1, 2007